

Abstract of the Disclosure

5 This application relates to a fuel dispensing system and method for safely
regulating transfer of fuel between a fuel dispenser and a fuel recipient.
The fuel dispensing system may be used, for example, to replenish electric
vehicles that use refillable electro-chemical power generation systems,
such as fuel cell hybrid systems using hydrogen fuel. The system employs
10 a combination of interlocks and other safety features specifically adapted
for high-risk indoor environments. Fueling cannot commence until the
dispenser and the recipient are electrically bonded to minimize the risk of
spark generation. The system may include, for example, a fuel supply
subsystem for preventing fuel flow except during a fueling session, an
15 immobilization subsystem for preventing relative movement of the
dispenser and the recipient during a fueling session, a communication
subsystem for enabling data exchange between the dispenser and the
recipient, and a leak detection subsystem for monitoring the fueling site
for fuel leaks. In order to minimize or negate the risk that hazardous
and/or flammable products could be exposed to the atmosphere during
20 a fueling session, the system ensures that fueling cannot commence until
multiple safety criteria are satisfied.